



March 14, 2014

TESTIMONY IN SUPPORT OF CT 5330
An Act Concerning the Application of Pesticides at Parks, Playgrounds,
Athletic Fields and Municipal Greens

Submitted by: Tara Cook-Littman, 160 Stella Lane, Fairfield, CT

My name is Tara Cook-Littman and I am most importantly a mother of three children. I am a former New York City Prosecutor and currently the chair of ConnFACT (Connecticut Families Against Chemical Trespass), the organization that grew from the roots of GMO Free CT. Our mission is to educate and inform the residents of Connecticut about the health, environmental, ethical, and economic issues related to the toxic chemicals we are exposed to daily without our knowledge or consent. Last year, my faith in democracy was restored because all of you heard your constituents and took action to provide us with a transparent food system by passing the first-in-the-nation GMO Labeling Law. It is my hope that you will once again put the health and welfare of Connecticut residents above the corporate interests that benefit from the sale and use of toxic chemical pesticides.

I struggled while writing my testimony for this bill because it just seems self evident that we should not be spraying toxic chemicals where children play. What more should I say? Why does this statement even need to be justified. It is my job as a mother to protect my children. I do everything I can in and around my home to keep toxic chemicals out. Never did I imagine needing to protect my children from toxic chemicals in the places where they play, but children everywhere are unknowingly being exposed daily.

Children should be able to play on playgrounds, in parks, and on sports fields without being exposed to toxic chemical pesticides. And, parents should be able to watch their children play without being concerned that their health is being jeopardized. Last summer when I took my children to a playground, they left the area with the slides and swings to run around in the grass instead. I would have loved to watch them run and

chase each other in the grass, but concerned about pesticides, I called out "don't play in the grass." Let me repeat that, I had to tell my children not to play in the grass. How do I explain to children under ten that the grass was poisonous and could cause serious health problems?

Children are our most vulnerable citizens. Studies link lawn pesticides with cancer, birth defects, hyperactivity, and developmental delays to name a few. Connecticut did the right thing when they banned pesticide use in schools through 8th grade, but what happens when these children are on playgrounds, in parks, or playing soccer on a municipal playing field? We must expand the existing law to protect children everywhere they may play.

I'm not sure when or how perfectly manicured grass became the norm in this country. I personally appreciate the biodiversity in my lawn and enjoy the dandelions and the purple flowers that appear every year. But, for those circumstances where manicured grass is required, for instance on playing fields, there are safe, effective, affordable alternatives to toxic lawn pesticides. However, I suspect that the pesticide industry does not want us to be aware of these alternatives because it would hurt their bottom line. Toxic lawn chemicals are wreaking havoc on our health and environment. We cannot continue to put corporate profits above the welfare of the citizens of this state. Please vote yes on HB 5330.

I would also like to recommend that HB 5330 be amended to include a ban on the sale and planting of genetically engineered grass and other genetically engineered garden perennials in the state of Connecticut. This past summer, the United States Department of Agriculture announced that Scott's Miracle-Gro's glyphosate resistant Kentucky bluegrass would be exempt from testing. Scott's later announced that field tests would begin as Scott's employees would be planting this grass at their homes. This GMO grass is exempt from any federal oversight because it is engineered in a different way than other GE crops thereby opening the door to other genetically engineered products slipping through the cracks without any oversight.

Currently, glyphosate is used to spot treat weeds on lawns, but if the new glyphosate resistant grass is planted, rather than spot treating, glyphosate will be used to blanket the entire lawn. The use of pesticides has already increased by millions of pounds because of genetically engineered crops. This grass will drastically increase the use of glyphosate, a toxic chemical that is scientifically proven to cause health problems in humans and animals and is wreaking havoc on our environment. Once this genetically engineered grass is released into our environment there is no way to recall it as seen by field tests conducted on Genetically engineered wheat that later contaminated the wheat crops in Oregon last year. Since the USDA has refused to regulate the genetically engineered grass, Connecticut lawmakers have a responsibility to protect the citizens of this state from the unknown consequences that may result from the planting of Scott's Glyphosate resistant grass.

Lawn Pesticide Fact Sheet

- Of 30 commonly used lawn pesticides, 19 have studies linking them with cancer, 13 are linked with **birth defects**, 21 with **reproductive effects**, 15 with **neurotoxicity** or **abnormal brain development**.¹
- **Children are particularly susceptible** because of their rapid growth and decreased ability to detoxify toxins.^{2,3} This is particularly true for the developing child *in utero*.
- **Studies link some lawn pesticides to hyperactivity, developmental delays, behavioral disorder, and motor dysfunction.**^{4,5,6}
- A Study in the Journal of the National Cancer Institute found that home and garden use of pesticides **can increase the risk of childhood leukemia by almost seven times**.⁷
- **The lag time between environmental exposure and the development of lymphoma can be as long as 20 years.**⁸
- **Lawn pesticides can be tracked inside of schools** where they can persist for long periods of time contaminating air, dust, surfaces, and carpets and exposing children to these toxic chemicals even if they are not in contact with the grass.⁹
- There is **provision for pesticide use if there is a condition that threatens the health and safety of the children**. For example, an underground wasp nest or an infestation of ticks.
- There are **significant gaps in the safety testing** of toxic lawn pesticides.¹⁰
 - **Lawn pesticides are not tested for long term toxicity** unless they are also used on food crops.
 - **Lawn pesticides are not tested in the combinations and formulations in which they are actually used**. Yet, these combinations and formulations can be more toxic than the pure active ingredient.¹⁵
 - **It is the chemical companies themselves that provide the safety testing data to the Environmental Protection Agency.**
 - **The official protocol used to test pesticides is no guarantee of scientific reliability and validity.**¹⁴
- **Lawn pesticides can contaminate well water**. 11% of residential wells tested in a Connecticut town showed the presence of one or more lawn pesticides.¹¹
- **There are safe, effective, affordable alternatives** to using toxic lawn pesticides. A number of towns in Connecticut have successfully switched to pesticide-free organic lawn care.^{12,13}
- With so many unknowns and with plausible evidence of harm to children, **it makes no sense for our children to be involuntarily exposed to the unnecessary use of these toxic chemicals especially when there are safe, effective, affordable alternatives.**

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The Watershed Partnership, Inc.
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Heavy use of herbicide Roundup linked to health dangers-U.S. study

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* Study says chemical residues linked to disease

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By Carey Gillam

April 25 (Reuters) - Heavy use of the world's most popular herbicide, Roundup, could be linked to a range of health problems and diseases, including Parkinson's, infertility and cancers, according to a new study.

The peer-reviewed report, published last week in the scientific journal *Entropy*, said evidence indicates that residues of "glyphosate," the chief ingredient in Roundup weed killer, which is sprayed over millions of acres of crops, has been found in food.

Those residues enhance the damaging effects of other food-borne chemical residues and toxins in the environment to disrupt normal body functions and induce disease, according to the report, authored by Stephanie Seneff, a research scientist at the

Massachusetts Institute of Technology, and Anthony Samsel, a retired science consultant from Arthur D. Little, Inc. Samsel is a former private environmental government contractor as well as a member of the Union of Concerned Scientists.

"Negative impact on the body is insidious and manifests slowly over time as inflammation damages cellular systems throughout the body," the study says.

We "have hit upon something very important that needs to be taken seriously and further investigated," Seneff said.

Environmentalists, consumer groups and plant scientists from several countries have warned that heavy use of glyphosate is causing problems for plants, people and animals.

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The EPA is conducting a standard registration review of glyphosate and has set a deadline of 2015 for determining if glyphosate use should be limited. The study is among many comments submitted to the agency.

Monsanto is the developer of both Roundup herbicide and a suite of crops that are genetically altered to withstand being sprayed with the Roundup weed killer.

These biotech crops, including corn, soybeans, canola and sugarbeets, are planted on millions of acres in the United States annually. Farmers like them because they can spray Roundup weed killer directly on the crops to kill weeds in the fields without harming the crops.

Roundup is also popularly used on lawns, gardens and golf courses.

Monsanto and other leading industry experts have said for years that glyphosate is proven safe, and has a less damaging impact on the environment than other commonly used chemicals.

Jerry Steiner, Monsanto's executive vice president of sustainability, reiterated that in a recent interview when questioned about the study.

"We are very confident in the long track record that glyphosate has. It has been very, very extensively studied," he said.

Of the more than two dozen top herbicides on the market, glyphosate is the most popular. In 2007, as much as 185 million pounds of glyphosate was used by U.S. farmers, double the amount used six years ago, according to Environmental Protection Agency (EPA) data.

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A genetically engineered grass expected to hit U.S. markets without government review could speed the evolution of hard-to-control weeds, and perhaps require a return to toxic herbicides scrapped decades ago. On July 1 — a Friday afternoon, a time usually ...

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Genetically Modified Grass Could Make Superweed Problem Worse

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A genetically engineered grass expected to hit U.S. markets without government review could speed the evolution of hard-to-control weeds, and perhaps require a return to toxic herbicides scrapped decades ago.

On July 1 — a Friday afternoon, a time usually reserved for potentially controversial news — the U.S. Department of Agriculture announced that Scotts Miracle-Gro's herbicide-resistant Kentucky bluegrass would be exempt from tests typically required of transgenic crops.

Scotts Miracle-Gro is the largest U.S. retailer of grass seed, and the modified grass could be widely used in residential lawns. It's resistant to glyphosate, a front-line herbicide known commercially as Roundup.

The grass will survive extra doses of Roundup, allowing more than usual to be applied. That's the problem, said agricultural biotechnology expert Douglas Gurian-Sherman of the Union of Concerned Scientists.

"The more a chemical is used consistently, the more likely that somebody's weeds will become resistant. That's standard, agreed-upon science," said Gurian-Sherman. "The way that Roundup is used because of transgenic crops exacerbates that problem."

Herbicide resistance evolves in much the same way as antibiotic resistance: When a weed- or bug-killing compound is applied, any weeds or bugs lucky enough to be genetically resistant will have the best chance to survive and reproduce.

Many crop plants are already engineered to be Roundup-resistant, and heavy use of the herbicide appears to have fueled the evolution of dozens of Roundup-resistant weed strains. They're a major threat to agriculture in parts of the United States, virtually uncontrollable except by hand-pulling or a return to toxic, decades-old herbicides that the relatively benign Roundup had replaced.



Pigweed growing in a soybean field. Since the introduction of Roundup-ready soy, Roundup-resistant pigweed has become a major problem. (*Image: pawpaw67/Flickr*)

"The industry hasn't developed a new herbicide in a long time. When resistance develops to something like glyphosate, it's not like we can move to some new chemical," said Gurian-Sherman. Compared to pigweed that can grow three inches each day in soybean fields, Roundup-resistant lawn weeds would be a nuisance rather than an economic threat. But just as superweeds have pushed farmers to bring back toxic herbicides, so might they push homeowners and landscapers. "We're burning out Roundup and going back into the past," said Gurian-Sherman. "The same kind of thing could happen in residential use."

Another potential problem is the spread of Roundup resistance into related strains of bluegrass, said plant geneticist Norman Ellstrand of the University of California, Riverside.

"I don't know what other bluegrass species it's cross-compatible with, but I can say with 98 percent certainty that it's cross-compatible with some," said Ellstrand. "If this plant grows and flowers at the same time as other bluegrass, they'll flourish. You'll have a new incidence of herbicide resistance getting into the wild."

Whereas Kentucky bluegrass is popular for lawns, it's not always welcome. Other members of its 500 species-strong genus are considered weeds.

A lesson can be taken from the unintentional escape of genes from rice bred for resistance to the Clearfield herbicide, said Ellstrand. "Now you have a very bad, weedy rice in Costa Rica that's resistant to the herbicide," he said. "It doesn't happen easily with rice. If it happens with rice, it will happen with bluegrasses."

Another species of Roundup-resistant grass developed by Scotts Miracle-Gro for golf courses was nixed by the USDA because of fear that resistance would spread to related pest species, noted Ellstrand. "The U.S. Forest Service waded in and said, 'We don't want it,'" he said.

Had the the Department of Agriculture decided to treat Roundup-ready bluegrass as a genetically modified plant, extra assurance of its environmental safety would have been demanded. But they decided not to because it fit through a loophole.

Genetically engineered plants are technically designated for regulation according to methods used to insert and activate new genes. Earlier methods used bacteria, which triggered pest-related clauses of the USDA's Plant Protection Act. But the Roundup-ready bluegrass was made with a so-called gene gun. No bacteria were involved, and the law's fine print was satisfied.

"By all definitions of genetic engineering, that's genetic engineering. But it totally escapes the U.S. regulatory framework," Ellstrand said.

According to Scotts Miracle-Gro spokesman Lance Latham, the USDA's decision "allows us to move forward with field tests. It's a first step. It's our hope that testing will continue our advancement to develop grass seed that is even more sustainable."

Image: Anne Homyak/Flickr

See Also:

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Will Your Lawn Be Genetically Engineered?

Scotts-Miracle Gro's Roundup-Ready Kentucky bluegrass is coming soon to a store near you

By Chris Ryan

In July of 2011, the U.S. Department of Agriculture (USDA) cleared the way for widespread planting of a new type of genetically engineered (GE) organism: a variety of Kentucky bluegrass which has been engineered by the Scotts Miracle-Gro company to be resistant to Monsanto Company's Roundup herbicide (glyphosate). The approval has sparked concern among health and environmental advocates for a number of reasons. First, the product will be unique among GE crops in that it will be directly marketed to the general public to plant themselves, as opposed to a specific consumer subset, such as farmers. Because of the expected wide consumer appeal due to a perception of easier lawn maintenance, the GE bluegrass will most likely result in a dramatic increase in

acreage planted in GE crops, as well as glyphosate applications, throughout the country—bringing with it the health and environmental consequences of such an increase. Additionally, because of the way in which the product was engineered to evade USDA regulatory channels, companies developing future GE crops are now aware of a significant loophole in biotechnology regulations and will likely design their products to fit easily through this loophole.

Skirting Regulations

The GE bluegrass was able to avoid any regulatory oversight because it is engineered in a way that differs from most GE crops. Accordingly, USDA issued a decision stating that it does not consider the GE turf grass to be subject to federal regulations. In the decision announced by the USDA's Animal & Plant Health Inspection Service (APHIS), the department stated that it does not have the authority to regulate introduction or transportation of the GE grass seed under the provisions of the *Plant Protection Act* (PPA), the statute that governs the agency's biotechnology regulations. The grass has been engineered to be resistant to the herbicide glyphosate, commonly sold as Monsanto's Roundup. Kentucky bluegrass is a popular choice for yards and fields, as well as pastures and prairies, and the GE seed is expected to be made available for consumers to plant in their home lawns, potentially making it one of the most widely planted GE crops in the country.

[Kentucky bluegrass] is engineered in a way that differs from most GE crops. USDA issued a decision stating that it does not consider the GE turf grass to be subject to federal regulations.

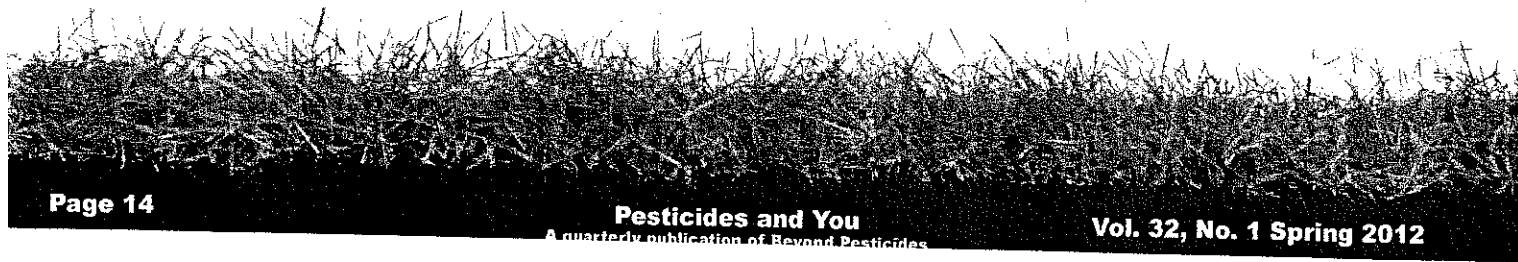
USDA's authority to regulate GE products stems from provisions of the PPA that are designed to ensure that GE crops do not present the potential for new "plant pests."¹ As the *New York Times* explains in discussing the announcement, "Since companies have created most genetically modified crops, like herbicide-resistant corn and soybean, using either genes or tools derived from microbes, USDA has long extended its powers to nearly every biotech plant developed in the country."²

However, the Scotts GE bluegrass was developed using genetic material from other plants, such as corn and rice, but no microbes. Accordingly, APHIS stated in its decision that, "The GE bluegrass variety is not within the Agency's regulatory authority because it does not contain plant pest sequences and no plant pest was used to create the GE Kentucky bluegrass."³

This finding is distinct from previous findings regarding a "determination of nonregulated status," as APHIS terms it, for other GE crops, such as GE alfalfa. In those cases, APHIS had used its statutory authority to evaluate any potential plant pest risk posed by the new crop and found that the risk was minimal, meaning that the crop did not need to be regulated (though the agency is currently being challenged in court over the integrity of its evaluation process). For the GE bluegrass, no review was conducted, since APHIS does not believe it has the authority, meaning the product is automatically free to be marketed and made commercially available without governmental review.

As part of its requirements under the *National Environmental Policy Act* (NEPA), APHIS also prepares a formal environmental assessment (EA), or a more rigorous environmental impact statement (EIS), for every GE product that it reviews.⁴ NEPA mandates that all federal agencies conduct environmental evaluations for any action that is undertaken that may impact the environment.⁵ However, there was no formal review prepared by APHIS of potential impacts that release of the GE bluegrass would have on the environment, because the agency apparently did not believe that it was undertaking an action. It was instead stating that it does not believe it has the authority to act.

The novel method employed in engineering the GE bluegrass was



specifically designed for the purposes of avoiding the APHIS regulatory process through which all other GE products go. In its letter to APHIS concerning the GE grass, the Scotts company specifically states that, "Because Kentucky bluegrass itself is not a plant pest, no plant pest components will be involved in the transformation, and the native plant genomes that will be used are fully classified... Scotts therefore maintains that under current regulations, transgenic Kentucky bluegrass...does not satisfy any of the regulatory criteria that would subject it to [APHIS] oversight."⁶ In detailing the specific engineering methods it used, Scotts then asked the agency to concur that the bluegrass would not be subject to review or regulation. In a short letter of response, APHIS did just that, saying, "Because no plant pests, unclassified organisms, or organisms whose classification is unknown were used to genetically engineer this variety of GE Kentucky bluegrass, APHIS has no reason to believe it is a plant pest and therefore does not consider the Kentucky bluegrass... to be regulated under 7 CFR part 340 and is not subject to the plant pest provisions of the PPA."⁷

Responding to questions about whether this decision sets a precedent for future unregulated approval of GE crops, APHIS indicates that the decision does not represent a shift in policy and that it will make decisions on a case-by-case basis. However, the agency added that, "If a GE organism is not a plant pest, is not made using plant pests, and APHIS has no reason to believe that it is a plant pest, then the GE organism would not fall under APHIS regulatory authority."⁸ This makes clear a significant loophole in the regulation of biotechnology in the U.S. If companies can find ways to engineer the GE products they develop without the use of microbes or other plant pests, then those products will not be subject to any sort of, even limited, public health or environmental oversight prior to being put on the market for the public to obtain.

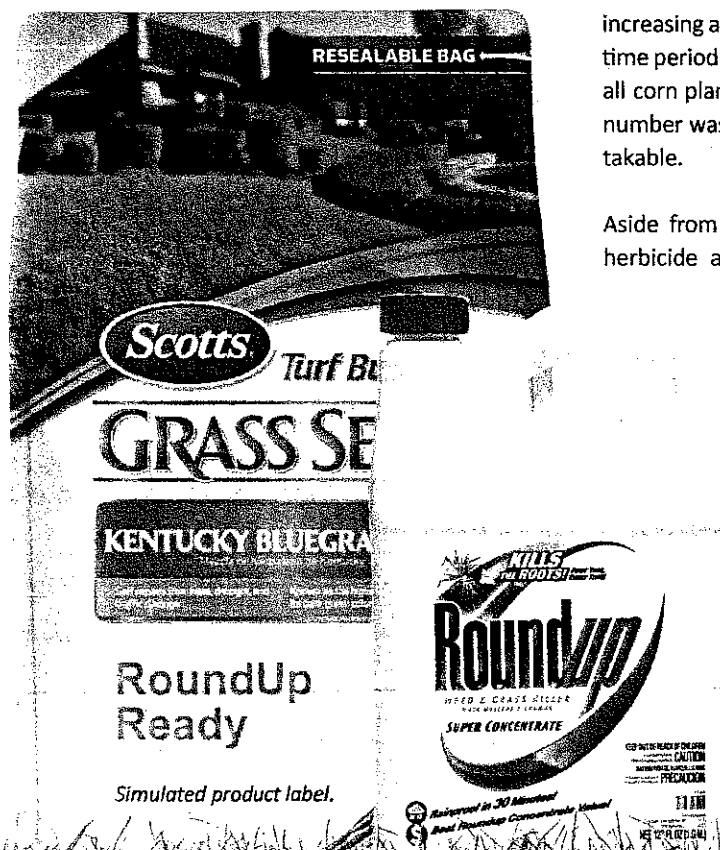
Consequences

There is little doubt that, if homeowners around the country start sowing

GE bluegrass seed on their properties in large numbers, this will result in a dramatic increase in the amount of Roundup that is sprayed onto the American landscape. Despite claims from biotechnology companies that herbicide resistant crops will reduce overall pesticide applications, studies have consistently shown that applications actually increase, as applicators are more likely to simply douse their crops with the chemicals, since they know it will not harm them and they want to eradicate as many weeds as possible. For example, a 2009 report on the effect of GE crops on pesticide use throughout the country found that, over the first 13 years of the commercial availability of GE crops in the U.S., pesticide use has increased by 383 million pounds.⁹ Additionally, according to an analysis of the *2010 Agricultural Chemical Use Report* released by USDA's National Agricultural Statistics Service (NASS),¹⁰ glyphosate use has dramatically increased over the last several years, while the use of other toxic chemicals such as atrazine has not declined. The 2010 report shows that, in the states surveyed, 57 million pounds of glyphosate were applied that year on corn fields. Ten years prior, in 2000, this number was only 4.4 million pounds, and in 2005, it was still less than half of 2010 numbers at 23 million pounds. Intense corn growing regions have experienced an even greater increase in glyphosate applications. Glyphosate use on corn in the state of Nebraska increased by more than five times in just seven years, going from 1.25 million pounds applied in 2003 to more than seven million pounds in

2010. When pesticide use is compared to the increasing adoption of GE crops over the same time period—in 2000, GE corn made up 25% of all corn planted in the U.S. and, by 2010, this number was 86%¹¹—the correlation is unmistakable.

Aside from the likely increase in residential herbicide applications as a result of home plantings, allowance of the GE bluegrass presents the potential for increased difficulties for organic farmers and ranchers. Because of the popularity of Kentucky bluegrass for use in yards, pastures, and prairies, its reach is expected to be quite widespread. This will make conversion of new land to organic food production more difficult as, according to APHIS's fact sheet on the decision, "Once established,



GE Kentucky bluegrass may prevent transition to organic status unless eradicated from the acreage to be transitioned.”¹²

Additional concerns about large scale planting of the GE bluegrass stem partly from the fact that a separate variety of GE grass developed by Scotts several years ago, which USDA is still considering, escaped from a test plot in Oregon in 2007. The company was fined \$500,000 as a result, but has continued to work on the project and may attempt to commercialize the product in the near future.¹³ In a letter accompanying the GE bluegrass decision, U.S. Secretary of Agriculture Tom Vilsack urged the Scotts Company to “work closely with a broad range of stakeholders” to “develop appropriate and effective stewardship measures to minimize com-

mingling and gene flow between GE and non-GE Kentucky bluegrass,” reflecting the Secretary’s continuing belief and insistence on coexistence between GE, non-GE, and organic farmers.¹⁴ However, it is unclear what kind of efforts could be taken by Scotts to make non-GE and organic land managers more comfortable, and some advocates doubt that Scotts will, in fact, make any serious effort to cooperate with this kind of voluntary initiative.

Glyphosate is a general herbicide used for eradication of broadleaf weeds. It has been linked to a number of serious human health effects, including increased cancer risk, neurotoxicity, and birth defects, as well as eye, skin, and respiratory irritation. One of the inert ingredients in product formulations of Roundup, polyoxyethyleneamine (POEA), has been shown to be toxic to human embryonic cells. The chemical is also of particular concern due to its toxicity to aquatic species, as well as instances of serious human health effects from acute exposure.

As health and environmental advocates have long been aware, herbicide applications to control weeds on residential lawns and playing fields are dangerous and unnecessary. A healthy lawn will be free of pests and create a safe area for outdoor recreation.

Beyond Pesticides has numerous resources on how to create a safe, healthy, and chemical-free lawn. Contact us with any questions or visit www.beyondpesticides.org/lawn for more information.



Endnotes

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Pesticide use ramping up as GMO crop technology backfires: study

BY CAREY GILLAM

Mon Oct 1, 2012 9:18pm EDT

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(Reuters) - U.S. farmers are using more hazardous pesticides to fight weeds and insects due largely to heavy adoption of genetically modified crop technologies that are sparking a rise of "superweeds" and hard-to-kill insects, according to a newly released study.

Genetically engineered crops have led to an increase in overall pesticide use, by 404 million pounds from the time they were introduced in 1996 through 2011, according to the report by Charles Benbrook, a research professor at the Center for Sustaining Agriculture and Natural Resources at Washington State University.

Of that total, herbicide use increased over the 16-year period by 527 million pounds while insecticide use decreased by 123 million pounds.

Benbrook's paper -- published in the peer-reviewed journal Environmental Sciences Europe over the weekend and announced on Monday -- undermines the value of both herbicide-tolerant crops and insect-protected crops, which were aimed at making it easier for farmers to kill weeds in their fields and protect crops from harmful pests, said Benbrook.

Herbicide-tolerant crops were the first genetically modified crops introduced to world, rolled out by Monsanto Co. in 1996, first in "Roundup Ready" soybeans and then in corn, cotton and other crops. Roundup Ready crops are engineered through transgenic modification to tolerate dousings of Monsanto's Roundup herbicide.

The crops were a hit with farmers who found they could easily kill weed populations without damaging their crops. But in recent years, more than two dozen weed species have become resistant to Roundup's chief ingredient glyphosate, causing farmers to use increasing amounts both of glyphosate and other weedkilling chemicals to try to control the so-called "superweeds."

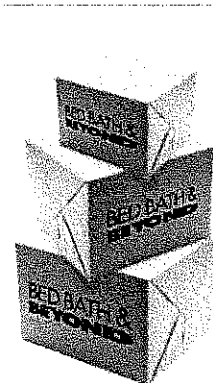
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"Resistant weeds have become a major problem for many farmers reliant on GE crops, and are now driving up the volume of herbicide needed each year by about 25 percent," Benbrook said.

Monsanto officials had no immediate comment.

"We're looking at this. Our experts haven't been able to access the supporting data as yet," said Monsanto spokesman Thomas Helscher.

Benbrook said the annual increase in the herbicides required to deal with tougher-to-control weeds on cropland planted to genetically modified crops has grown from 1.5 million pounds in 1999 to about 90 million pounds in 2011.

Similarly, the introduction of "Bt" corn and cotton crops engineered to be toxic to certain insects is triggering the rise of insects resistant to the crop toxin, according to Benbrook.

Insecticide use did drop substantially - 28 percent from 1996 to 2011 - but is now on the rise, he said.

"The relatively recent emergence and spread of insect populations resistant to the Bt toxins expressed in Bt corn and cotton has started to increase insecticide use, and will continue to do so," he said.

Herbicide-tolerant and Bt-transgenic crops now dominate U.S. agriculture, accounting for about one in every two acres of harvested cropland, and around 95 percent of soybean and cotton acres, and over 85 percent of corn acres.

"Things are getting worse, fast," said Benbrook in an interview. "In order to deal with rapidly spreading resistant weeds, farmers are being forced to expand use of older, higher-risk herbicides. To stop corn and cotton insects from developing resistance to Bt, farmers planting Bt crops are being asked to spray the insecticides that Bt corn and cotton were designed to displace."

(Reporting By Carey Gillam; Editing by Ken Wills)

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